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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,448	10/31/2001	Robert B. Staszewski	TI-33170	3923
23494	7590	02/24/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			FLANAGAN, KRISTA M	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

6

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/001,448	STASZEWSKI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Krista M. Flanagan	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 18-27 and 34-36 is/are rejected.
- 7) ☒ Claim(s) 11-17 and 28-33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/31/2001</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Drawings*

1. Figures 1-4b should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "100" has been used to designate both the transmit filter of figure 6 and the transmit filter of figure 15. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 20, 22, 122, and 124. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet

submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d).

4. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

5. The disclosure is objected to because of the following informalities: On page 9, line 25 “4a-b” should be changed to “4a and 4b” and on page 14, line 12 “10a-c” should be changed to “10a through 10c”.

Appropriate correction is required.

### ***Claim Objections***

6. Claim 1 objected to because of the following informalities: line 4 “responsive to the a reference clock” should be changed to “responsive to a reference clock”. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-10 and 18-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Rasmussen et al. US Patent No. 5,732,106.

9. Regarding claim 1, Rasmussen discloses a transmit filter for generating an oversampled signal from a stream of data symbols generated responsive to a symbol clock, comprising:

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circuitry for receiving the data symbol stream (See figure 2, block 21 and column 3, lines 6-9); phase tracking circuitry, responsive to a reference clock generated independently from the symbol clock, for maintaining phase information relative to the symbol clock (See figure 2, block 24 and column 3, lines 11-19); and sample generating circuitry for generating samples responsive to said phase information (See figure 2, block 26 and column 3, line 50-65).

10. Regarding claim 2, which includes all of the limitations of claim 1, Rasmussen discloses a transmit filter, wherein said sample generating circuitry generates samples at an active edge of said reference clock (See column 4, lines 9-12).

11. Regarding claim 3, which inherits all of the limitation of claim 2, Rasmussen discloses a transmit filter wherein said sample generating circuitry generates samples on each clock cycle of said reference clock (See column 4, lines 28-31).

12. Regarding claim 4, which inherits all of the limitation of claim 2, Rasmussen discloses a transmit filter wherein said sample generating circuitry generates samples on selected clock cycles of said reference clock (See column 4, lines 44-47).

13. Regarding claim 5, which inherits all of the limitation of claim 1, Rasmussen discloses a transmit filter wherein said reference clock comprises the output of a frequency divider (See column 4, lines 5-8).

14. Regarding claim 6, which inherits all of the limitation of claim 1, Rasmussen discloses a transmit filter wherein said reference clock is selectable from two or more clock signals (See column 3, lines 11-14).

15. Regarding claim 7, which inherits all of the limitation of claim 1, Rasmussen discloses a transmit filter wherein said phase tracking circuitry comprises circuitry for adding a

predetermined value to a stored value on each clock cycle of said reference clock (See claim 3 and column 8, lines 14-20).

16. Regarding claim 8, which inherits all of the limitation of claim 7, Rasmussen discloses a transmit filter wherein said predetermined value is a ratio between a frequency associated with said symbol clock and a frequency associated with said reference clock (See claim 3; column 8, lines 14-20 and claim 8; column 8, lines 45-52).

17. Regarding claim 9, which inherits all of the limitation of claim 1, Rasmussen discloses a transmit filter and further comprising circuitry for storing a current data symbol and a predetermined number of preceding data symbols (See figure 3, blocks 35, 36, and 37).

18. Regarding claim 10, which inherits all of the limitation of claim 9, Rasmussen discloses a transmit filter wherein said sample generating circuitry comprises circuitry for generating a sample point responsive to said phase information, said current data symbol and one or more of said preceding data symbols (See figure 3).

19. Regarding claim 18, Rasmussen discloses a method of generating an oversampled signal from a stream of data symbols generated responsive to a symbol clock, comprising the steps of: receiving the data symbol stream (See column 3, lines 6-9); responsive to a reference clock generated independently from the symbol clock, for maintaining phase information relative to the symbol clock (See column 3, lines 11-19); and generating samples responsive to said phase information and said reference clock (See column 3, lines 50-65).

20. Regarding claim 19, which inherits all of the limitation of claim 18, Rasmussen discloses a method of generating an oversampled signal from a stream of data symbols generated

responsive to a symbol clock wherein said sample generating step comprises the step of generating samples at an active edge of said reference clock (See column 4, lines 9-12).

21. Regarding claim 20, which inherits all of the limitation of claim 19, Rasmussen discloses a method of generating an oversampled signal from a stream of data symbols generated responsive to a symbol clock wherein said sample generating step comprises the step of generating samples on each clock cycle of said reference clock (See column 4, lines 28-31).

22. Regarding claim 21, which inherits all of the limitation of claim 19, Rasmussen discloses a method of generating an oversampled signal from a stream of data symbols generated responsive to a symbol clock wherein said sample generating step comprises the step of generating samples on selected clock cycles of said reference clock (See column 4, lines 44-47).

23. Regarding claim 22, which inherits all of the limitation of claim 18, Rasmussen discloses a method of generating an oversampled signal from a stream of data symbols generated responsive to a symbol clock further comprising the step of generating the reference clock through a frequency divider (See column 4, lines 5-8).

24. Regarding claim 23, which inherits all of the limitation of claim 18, Rasmussen discloses a method of generating an oversampled signal from a stream of data symbols generated responsive to a symbol clock further comprising the step of selecting the reference clock from two or more clock signals (See column 3, lines 11-14).

25. Regarding claim 24, which inherits all of the limitation of claim 18, Rasmussen discloses a method of generating an oversampled signal from a stream of data symbols generated responsive to a symbol clock wherein said step of maintaining phase information comprises the

step of adding a predetermined value to a stored value on each clock cycle of said reference clock (see claim 3, and column 8, lines 14-20).

26. Regarding claim 25, which inherits all of the limitation of claim 24, Rasmussen discloses a method of generating an oversampled signal from a stream of data symbols generated responsive to a symbol clock wherein said predetermined value is a ratio between a frequency associated with said symbol clock and a frequency associated with said reference clock (See claim 3; column 8, lines 14-20 and claim 8; column 8, lines 45-52).

27. Regarding claim 26, which inherits all of the limitation of claim 18, Rasmussen discloses a method of generating an oversampled signal from a stream of data symbols generated responsive to a symbol clock and further comprising the step of storing a current data symbol and a predetermined number of preceding data symbols (See figure 3, blocks 35, 36, and 37).

28. Regarding claim 27, which inherits all of the limitation of claim 26, Rasmussen discloses a method of generating an oversampled signal from a stream of data symbols generated responsive to a symbol clock, wherein said sample generating step comprises the step of generating a sample point responsive to said phase information, said current data symbol and one or more of said preceding data symbols (See figure 3).

***Claim Rejections - 35 USC § 103***

29. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



30. Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmussen US Patent No. 5,732,106.

31. Regarding claim 34, Rasmussen discloses a transmit filter for generating a oversampled signal from a stream of data symbols generated responsive to a symbol clock, comprising: circuitry for receiving the data symbol stream; phase tracking circuitry, responsive to a reference clock, for maintaining phase information relative to the symbol clock; and sample generating circuitry for selectively generating samples responsive to said phase information and said symbol clock (See figure 2, block 17 and column 9, lines 36-42 where the count determines the word length for the decoder which is coupled to the numerically controlled oscillator which can be set based on the count to generate samples selectively, randomly or deterministically). Rasmussen does not explicitly disclose sample generating circuitry for selectively generating samples. However, it would be obvious to one of ordinary skill in the art that the count determines the word length for the decoder which is coupled to the numerically controlled oscillator which can be set based on the count to generate samples selectively, randomly or deterministically. One would be motivated to do this to minimize generation of excessive sample points and eliminate noise.

32. Regarding claim 35, which all of the limitations of claim 34, Rasmussen discloses a transmit filter wherein said sample generating circuitry generates samples on randomly selected cycles of said reference clock (See figure 2, block 17 and column 9, lines 36-42 where the count determines the word length for the decoder which is coupled to the numerically controlled oscillator which can be set based on the count to generate samples selectively, randomly or deterministically). Rasmussen does not explicitly disclose sample generating circuitry that

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generates samples on randomly selected cycles of the reference clock. However, it would be obvious to one of ordinary skill in the art that the count determines the word length for the decoder which is coupled to the numerically controlled oscillator which can be set based on the count to generate samples selectively, randomly or deterministically. One would be motivated to do this to minimize generation of excessive sample points and eliminate noise.

33. Regarding claim 36, which all of the limitations of claim 34, Rasmussen discloses a transmit filter wherein said sample generating circuitry generates samples on deterministically selected cycles of said reference clock (See figure 2, block 17 and column 9, lines 36-42 where the count determines the word length for the decoder which is coupled to the numerically controlled oscillator which can be set based on the count to generate samples selectively, randomly or deterministically). Rasmussen does not explicitly disclose sample generating circuitry that generates samples on deterministically selected cycles of the reference clock. However, it would be obvious to one of ordinary skill in the art that the count determines the word length for the decoder which is coupled to the numerically controlled oscillator which can be set based on the count to generate samples selectively, randomly or deterministically. One would be motivated to do this to minimize generation of excessive sample points and eliminate noise.

***Allowable Subject Matter***

34. Claims 11-17 and 28-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent Application 2002/0061082 A1, Balakrishnan et al.

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krista M. Flanagan whose telephone number is (571) 272-2203. The examiner can normally be reached on Monday - Friday, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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TESFALDET BOCLURE  
PRIMARY EXAMINER

